

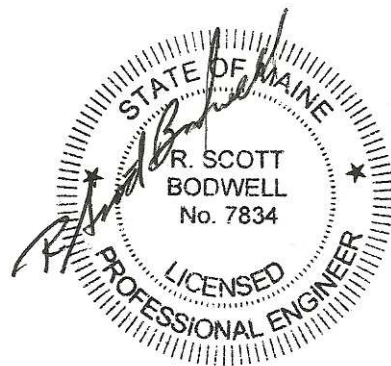
**Addendum to Sound Level Assessment
Hancock Wind, LLC
Hancock Wind Project
Hancock County, Maine**

Original Sound Level Assessment - January 2013

Addendum Date – June 2014

Prepared for:
First Wind Energy, LLC

Prepared by:
R. Scott Bodwell, PE
Bodwell EnviroAcoustics, LLC
55 Ocean Drive
Brunswick, Maine 04011



 **Bodwell EnviroAcoustics LLC**

1.0 Introduction

In a report dated January 2013, Bodwell EnviroAcoustics LLC (BEA) assessed sound levels expected to result from construction and operation of the Hancock Wind Project proposed for Hancock County, Maine. The original turbine layout evaluated for Hancock Wind consisted of 18 Siemens ST-113 or Vestas V112 wind turbines with a total generating capacity ranging up to 55 megawatts (MW).

The January 2013 Sound Level Assessment inadvertently presented an earlier turbine layout than was contained in the civil design as permitted for the Project. This Addendum presents predictive model calculations for the permitted layout including a revised sound contour map for Hancock Wind and updated calculations for receptor points. As with the original Sound Level Assessment, this Addendum calculates predicted sound levels from simultaneous operation of all proposed wind turbines at maximum rated sound power output and during nighttime stable atmospheric conditions.

The revised calculations indicate that changes to the turbine layout were minor from a sound assessment standpoint and did not significantly affect the results of the predictive sound model or findings of the original study.

6.5 Predicted Sound Levels

Figure 6-1 of this Addendum presents a map from the original Sound Level Assessment showing the turbine layout, sound level isopleths at 1 dBA intervals and predicted sound levels at selected receptor points for the V112 turbine. Revised Figure 6-1 shows the same information for the permitted turbine layout. The most notable changes occurred with four turbines located in the eastern most turbine group. Turbines 15 and 16 (see Revised Figure 6-1) were relocated to the southeast and Turbines 17 and 18 moved northwesterly with distances ranging from approximately 530 to 1330 feet. In both figures, the sound level contours corresponding to Maine DEP daytime limit of 55 dBA and nighttime limit of 42 dBA are shown as bold lines.

A summary of the predicted sound levels at the receptor points for daytime and nighttime operation of Vestas V112 and Siemens ST-113 turbines for the permitted layout is provided in Revised Table 6-1. As shown by redline edits in Revised Table 6-1, the only change from the original Sound Level Assessment is a reduction of 0.1 dBA at receptor H3 for the ST-113 turbine. The predicted sound levels indicate that when operating at full sound output, Hancock Wind will comply with all applicable Maine DEP sound level limits.

Receptor Point ^a	Description and Approximate Distance to Nearest Hancock Wind Turbine		Predicted Hourly Sound Level and Applicable Nighttime Limit, dBA		
	Description	Distance (ft)	V112	ST-113	Sound Level Limit
H1	Osborn - Protected Location	2,360	39.6	39.4	42
H2	Osborn - Protected Location	2,630	39.1	38.9	42
H3	T22 MD - Protected Location	4,830	36.0	35.7 35.8	42

^aSound levels for Receptor Points H1 and H2 were reversed in the original Table 6-1, which has been corrected here.

Revised Table 6-1. Predicted Sound Levels from Wind Turbine Operations at Receptor Points.

APPENDIX III: SOUND MODEL PREDICTIONS FOR COMBINED OPERATION OF HANCOCK WIND AND BULL HILL WIND AND EVALUATION OF EASTBROOK NOISE ORDINANCE

Revised Table III-1 presents sound level predictions for the combined operation of Hancock Wind and Bull Hill Wind with the permitted turbine layout. The results are compared to applicable Maine DEP sound level limits and to relevant sound level limits contained in the Eastbrook Noise Ordinance that were applied in the Bull Hill permit. The receptor points include H4 located two miles from wind turbines and the nearest receptor point P2 evaluated for Bull Hill Wind. As shown by the redline edit, the only change from the original Sound Level Assessment is an increase of 0.1 dBA at receptor H3. The results indicate that the combined sound levels will be below both Maine DEP sound limits and Eastbrook noise standards that were applied in the Bull Hill permit.

In addition, Revised Table III-1 presents the model predictions with an SDRS adjustment of +1.7 dBA applied to sound levels from the Hancock Wind V112 turbines under Section I of Maine DEP 375.10 (ref. Report Section 6.4.2). For this scenario, there were no changes in predicted sound levels from the original Sound Level Assessment. Even with this potential SDRS adjustment, the model predictions in Revised Table III-1 indicate that the combined project will meet both Maine DEP sound limits and Town of Eastbrook noise standards applied in the Bull Hill Permit.

Receptor Point	Description and Approximate Distance to Nearest Hancock Wind Turbine		Predicted Hourly Sound Level and Nighttime Limit, dBA		
	Description	Distance (ft)	V112	V112 with SDRS ^a	Sound Level Limit
H1	Osborn - Protected Location	2,360	40.3	41.8	42 ^b
H2	Osborn - Protected Location	2,621	39.5	41.1	42
H3	T22 - Protected Location	4,830	36.1 36.0	37.7	42
H4	Eastbrook – 2 miles from nearest turbine	10,560	32.1	32.9	35 ^c
P2	Eastbrook - Protected Location	3,700 (from Bull Hill turbine)	39.7	39.8	40 ^d

^aAdds 1.7 dBA for potential SDR sounds from Hancock Wind V112 turbines.

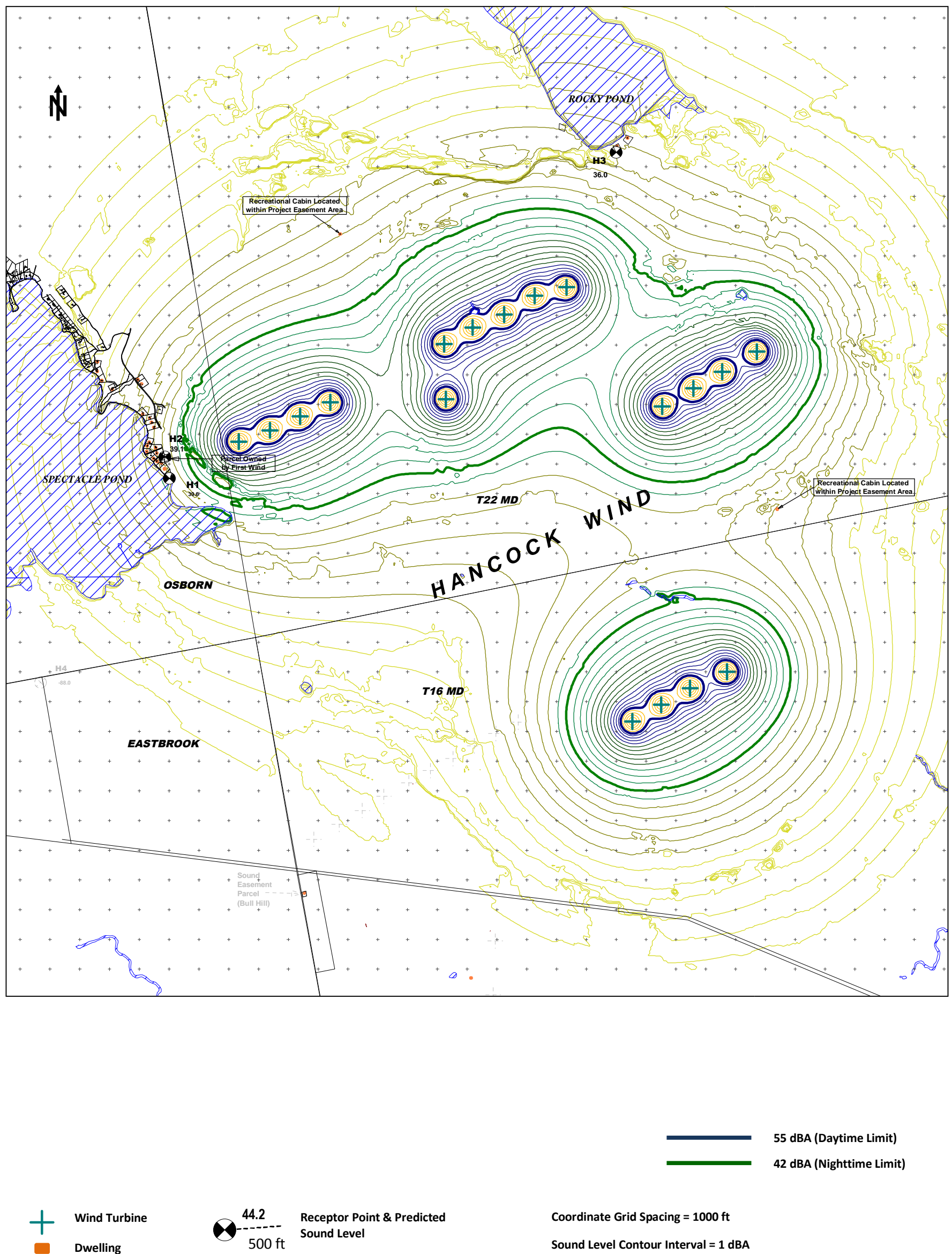
^bMaine DEP nighttime sound limit at protected locations.

^cEastbrook two mile limit applied in Eastbrook to Bull Hill Wind.

^dEastbrook nighttime limit applied to Bull Hill Wind at protected locations in Eastbrook.

Revised Table III-1. Predicted Sound Levels at Receptor Points from Combined Operation of Hancock Wind with V117 Turbine and Bull Hill Wind.

Figure 6-1. Predicted Sound Levels from Full Routine Operation of Hancock Wind with V112 Turbine



Revised Figure 6-1. Predicted Sound Levels from Full Routine
Operation of Hancock Wind with V112 Turbine (Permitted Layout)

